Poster Session I

ALLOGENEIC

58

ALLOGRAFTING IN PATIENTS WITH SEVERE, REFRACTORY APLASTIC ANEMIA USING PERIPHERAL BLOOD STEM CELLS AND A FLUDARABINE-BASED CONDITIONING REGIMEN: THE MEXICAN EXPERIENCE

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We studied the effectiveness of a fludarabine/cyclophosphamide-based conditioning regimen without anti-thymocyte globulin in 23 aplastic anemia patients, who had no response to previous conventional pharmacologic treatment. Patients received oral busulphan 4 mg/kg/day/2 days, IV cyclophosphamide 350 mg/m^2/day/3 days and fludarabine 30 mg/m^2/day/3 days. For GVHD prophylaxis patients received MTX 5 mg/m^2 days +1, 3, 6, and 11 and oral cyclosporin-A (CyA) 5 mg/kg/day, starting on day −1. Peripheral blood stem cell products were used with a median dose of 5.5×10^6 CD34$^+$/kg. The patients were followed for an average of 25 months. By a median of day +11 an ANC $>0.5 \times 10^9$/L was reached; and by day, +12 the platelet count had reached $>20{,}000 \times 10^9$/L. Acute grade I-II GVHD occurred in 4 patients, whereas limited chronic GVHD presented in 6 cases. Twenty one patients (91.3%) achieved engraftment. Two patients failed to engraft and 4 developed late rejection, two of these individuals died, 2 survive with high transfusion requirements, whereas 2 received a second peripheral blood stem cell infusion and achieved sustained engraftment. Currently 21 (91%) of the 23 patients are alive, whereas 19 of 21 (90%) remain in complete remission. The average cost was about fifteen thousand US dollars for this kind of non-myeloablative transplant. Non-myeloablative stem cell transplantation represents an affordable alternative to traditional more cytotoxic conditioning for severe aplastic anemia (SAA) patients. Long-term effects however, remain to be evaluated.

59

ONE YEAR FOLLOW UP OF 71 LEUKEMIC PATIENTS WHO RECEIVED FLUDARABINE AND BUSULFAN (FLUBUP) AS MYELOABLATIVE CONDITIONING REGIMEN FOR ALLOGENEIC PBSCT

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We are evaluating fludarabine (40 mg/m^2 on days −6 to −2) and busulfan (4 mg/kg/day on days −5 to −2) as a new conditioning regimen for allogeneic peripheral blood stem cell transplantation in leukemic patients with matched related donors. Seventy one patients were enrolled, 18 with high and 53 with standard risk (18 ALL, 35 AML, 16 CML and 2 MDS; F=29 M=42). The median patient age was 23.7 years (range, 2.4–46.7). Cyclosporine was used as a prophylactic agent for GVHD (3 mg/kg IV till +4, 10 mg/kg oral from day +5). The median follow-up was one year (range, 50–592 days). 91.5% and 15.5% developed mucositis and hepatic toxicity respectively which resolved with conservative therapy. There was no cardiac toxicity (except one patient with mild pericardial effusion and another with tachycardia). The median of highest serum creatinine level during hospitalization were 1.6 mg/dl (range, 0.8–3.7; 24.3% with Cr >2) and serum cyclosporine level, at the same time, was 246 ng/ml (range, 9–814). 7% experienced hemorrhagic cystitis (infection was ruled out) and 36.6% experienced moderate to severe headache. 38% and 14.1% of the patients showed grade 1, 2 and grade 3 acute GVHD respectively. Grade 4 acute GVHD was found in one patient. 50% and 7% showed limited and extensive chronic GVHD. 27% of patients became CMV$^+$ (min +17, max +69). The median times for neutrophil and platelet recovery were 10 (min 0, max +26) and 12 (min 0, max +30) days. In day +38, 86.7% of the patients had 90% or more, mononuclear chimerism (with STR-PCR technique; median, 97%; range, 25–100). 5 ALL and 8 AML patients relapsed (18.3% of all patients, post transplantation lymphoproliferative disease was found in one of them) and 8 (11%) died after relapse. Nonrelapse mortality was 15.5% (11 patients; acute GVHD grade IV=1, CMV infection and GVHD=2, CMV infection=2, pneumonia=2, infection=2, chronic GVHD=2). With a median follow up of one year (range, 1.6–20 months), the probability of overall survival and disease free survival was 73% and 66% respectively. It could be beneficial to use fludarabine versus cyclophosphamide in standard conditioning regimen for leukemic patients because of reduced toxicity, low incidence of acute GVHD and facilitated donor engraftment.

60

ALLOGENEIC BONE MARROW TRANSPLANTATION IN β-THALASSAEMIA—SINGLE CENTER STUDY

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Objective: To evaluate outcome of allogeneic BMT in β-thalassaemia at Armed Forces Bone Marrow Transplant Center, Pakistan. **Methods:** Twenty-five patients with β-thalassaemia underwent allogeneic BMT/PBSC transplantation from HLA identical sibling donors. Patients were classified in three groups according to Pesaro (Italy) risk classification. Class-I (n=12) and Class-II (n=8) patients received conditioning with Bu14/Cy200, whereas Class-III (n=5) patients received conditioning with hydroxyurea, azathioprine, fludarabine, along with Bu14/Cy200. Cyclosporine, prednisolone and methotrexate were given for GvHD prophylaxis. Stem cells dose infused was $>4.0 \times 10^8$/kg body weight of the patient. **Results:** Since August 2001 till September 2004 a total of 25 patients suffering from β-thalassaemia major underwent allogeneic bone marrow transplantation. Out of these 20 were males and 5 females (male:female ratio 4:1). Ages ranged between 9 months to 14 years (median age: 4.64 years). Twelve patients were in risk class-I, whereas 8 patients in class-II and 5 patients were in risk class-III. Engraftment was seen in all the patients. Median time to neutrophil recovery (ANC $>0.5 \times 10^9$/l) was 13 days and platelet recovery ($>20 \times 10^9$/l) was 15 days. Secondary graft rejection was observed in 5 patients (20%) between 2–4 months post transplant. Three patients were subjected to 2nd transplant, out of these 2 achieved successful engraftment whereas 1 again reverted back to β-thalassaemia, whereas 1 died of VOD liver. Acute GvHD was observed in 15 patients (60%). Grade-I acute GvHD was seen in 09 patients (36%), Grade-II GvHD in 2 patients (8%), grade-III GvHD in 3 patients (12%) and grade-IV GvHD in 1 patient (4%). Other common non infective complications were hypertension (n=5) 20%, fits (n=3) 12%, VOD liver (n=2) 8%, haemorrhagic cyctic (n=2) 8%. Major post transplant infective complications were disseminated CMV infection (n=2) 8%, pseudomonas septicemia (n=1) 4%, disseminated tuberculosis (n=1) 4%. Overall mortality in all risk classes was 28% (n=7). Overall survival was (n=18) 72%. Class wise survival was (10/12) 83.33% in Class-I, class-II (5/8) 62.5% and in Class-III (3/5) 60%. **Conclusion:** Allogeneic BMT is the only curative therapy for β-thalassaemia patients, however the success rate can be increased if the patients are selected carefully and transplanted at an early age.

61

[Abstract Withdrawn]

62

FACILITATING CELL (FC)-MEDIATED ALLOENGRAFTMENT OCCURS IN THE CONTEXT OF *IN VIVO* REGULATORY T-CELL INDUCTION

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